

# Roots of Empathy

## RESEARCH SYMPOSIUM

TORONTO, CANADA

MAY 8-10, 2013

## PROCEEDINGS



Roots of Empathy  
Racines de l'empathie

[www.rootsofempathy.org](http://www.rootsofempathy.org)

## Introduction

The 2013 Roots of Empathy Research Symposium was yet another successful inspiring meeting of the minds, offering engaging interdisciplinary research presentations from world renowned international scientists. The Honourable Liz Sandals, Ontario Minister of Education, opened the exciting event in support of Roots of Empathy's mission of building a more caring, peaceful, and civil society through the development of empathy in children and adults. Keynotes by Dr. Stuart Shanker on self-regulation and the development of empathy, and Dr. Ervin Staub on the development of inclusive caring, moral courage, and the resistance to destructive influence provided an engaging experience for all.

Under the overarching theme of empathy, scientists discussed the global trajectory of empathy across time, the significance of empathy, the neuroscientific implications for the cultivation of empathy, the relationship between empathy and good citizenry, and the role of digital ethics and new media literacies. Furthermore, the preliminary outcomes of a recent Ontario-based study on the Roots of Empathy program were shared.

The full-day workshop with Dr. Marvin W. Berkowitz on the comprehensive approach to effective character education was a dynamic, thought provoking, and insightful experience.

Roots of Empathy values the lens of research as the organization continues to provide empathy-based programming to children on three continents. We would like to thank the Ontario Ministry of Education for supporting the Roots of Empathy Research Symposium.



Mary Gordon  
*Founder/President*



Lisa Bayrami, Ph.D.  
*Research Manager*



*Hon. Liz Sandals, Minister of Education*

# The roots of goodness: inclusive caring, moral courage, and resistance to destructive influence

## ERVIN STAUB, PhD

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I have had a lifelong concern with promoting caring and preventing violence. For many years, I studied the origins of violence, causes of violence and genocide. Recently, I have moved full circle and returned to my original concern of how to raise inclusively caring, morally courageous children.

The personal characteristics that we need to promote for people to be caring, helpful and to be able to resist influences that lead to violence can be broadly categorized as:

- Empathy
- Sympathy
- Moral values/principles
- A sense of personal responsibility for others' welfare

I have studied a personal orientation that I have called "prosocial value orientation." Its components are:

1. Positive view of humans
2. Feelings of concern for others
3. Personal responsibility for others' welfare

Empathy is embedded in this prosocial value orientation. People with these combination of characteristics are more likely to help others and to respond to psychological distress in others.

## Socialization and experiences to develop inclusive caring

The concept of inclusive caring means to both care about the welfare of others in our group, and extending care to people outside our own group. Providing children with warmth and nurturance are important, however, by themselves, they are not enough to develop children who are inclusively caring. Positive guidance from parents with a focus on important values is critical. Induction is an aspect of this—whereby we point out to children the consequence of their behavior on others, both positive and negative. This has been shown to contribute to the development of empathy as young as age 3.<sup>1</sup>

There is also the concept of providing children with experiential learning and how we can change as a result of our actions. For example, when I do something helpful, I become more concerned for others. I see myself as one who is helpful and am more likely to do this again in the future. Of note, the learning by doing pattern also applies to the cycle of violence.

Whiting et al. demonstrated how giving simple responsibilities to children increased their altruistic and helpful behavior and decreased their egoistic behaviours.<sup>2</sup> My own research studies have shown that engaging children to help other children leads to more helping by them later on.<sup>3</sup>

Another example of learning by doing is the Roots of Empathy program which provides both vicarious and direct learning experiences to the children. They watch an adult interact with and help the baby and engage in thinking of other's needs. Learning by doing has an effect, in part, by changing the self-perception of children (and adults).



*Ervin Staub*

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**The Roots of Empathy program provides both vicarious and direct learning experiences to children.**

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Positive socialization and experiences help fulfill basic psychological needs constructively and enable children to do so for themselves. Thereby they also contribute to the optimal functioning of children/human beings. Conversely, if these basic psychological needs are not met, they are so strong, that children will fulfill them in destructive ways.

### The importance of models

In a genocide, there are always people who are “rescuers”. These are people who, once a genocide begins, endanger themselves in order to be rescuers to the intended victims. When rescuers were subsequently interviewed about their parents, at least one parent was identified as being a caring, helpful, altruistic person. There was a reasonable percentage of parents of rescuers who engaged with members of the “other” group (the intended victims of the genocide) in a positive way. This demonstrates the power of modeled behaviour.

On the other hand, if children see the passivity of bystanders, they learn the world is a negative place. We have studied bullying of children in schools and the specific experience of the child who was bullied.<sup>4</sup> For children who were bullied but had a bystander intervene, even if the bystander was not able to change the situation long-term, their negative emotions towards their time in school were decreased. In the same situation, if a child did not have anybody intervene, they experienced increased negative emotions.

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### *Empathy requires seeing the humanity of others.*

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One impact of being harmed or neglected as a child is that the child will begin to see the world as dangerous and other people as hostile. However, there is altruism born of suffering, as not everybody who has been victimized becomes violent. Instead some people who have been victimized want to help other. Certain experiences—caring and support by other people and healing from past victimization are likely contributors to altruism born of suffering.<sup>5</sup>

### Developing moral courage

There is little definitively known on developing moral courage and most information about courage comes from research with the military. We know that training and actual engagement increase courage as a person gains confidence in his or her capacity to judge and act. I believe the same applies to moral courage.<sup>6</sup>

Strategies that can help develop moral courage include:

- Participation in decision making
  - Giving children a voice
- Encouraging children to act on their values and empathic feelings (with proper consideration of consequences)
  - Give them the best tools to be able to do this, for example training to be active bystanders
- Relationship to authority
  - Developing the capacity for independent judgement in children

### Summary

Adults can help children fulfill basic psychological needs constructively and teach them to develop skills to do so on their own. They can also transmit positive values and move children to act on these values. Education can expand on the effects of socialization to help raise children who are morally courageous and inclusively caring. In the end, situations are powerful but people can do a great deal to resist the influence of situations and take on the role of active bystander to prevent the harm, and to promote others' welfare.

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1 Yarrow & Waxler, (1976); 2 Whiting & Whiting, (1975); 3 Staub, (1979). Staub, (2003); 4 Staub, (2003); 5 Staub & Vollhardt, (2008); 6 Staub (in press). *The roots of goodness: inclusive caring, altruism born of suffering, moral courage, active bystandership and heroism*. New York: Oxford University Press.



# Self-regulation and the development of empathy

## STUART SHANKER, PhD

*Distinguished Research Professor of  
Psychology and Philosophy,  
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Research Initiative  
York University*



*Stuart Shanker and Marvin W. Berkowitz*

## What is self-regulation?

An excellent definition of self-regulation comes from Alan Fogel:

*“If there is a parasympathetic nervous system – sympathetic nervous system (PNS-SNS) balance, we can feel and express our emotions at the same time as being able to empathize with and relate to others.”<sup>1</sup>*

In effect, self-regulation represents the starting point. Claude Bernard, the father of physiology in the late 1800s, put forth the idea that an organism must be in homeostasis. From there, Hans Selye, in 1936, identified the stress response.

Currently, something is happening with Canadian children that is stretching the elasticity of the stress recovery system. We are seeing an explosion of internalizing and externalizing disorders. Prevalence of ADHD and ADD is growing along with obesity and mood disorders. This changes the landscape completely for teachers and society. While we can argue that we are over-diagnosing children with these disorders, as many as half of the children in a classroom are on a trajectory with poor outcomes and facing many challenges. How can we reverse these trends?

## Problems with self-regulation

The core issue is self-regulation. Self-regulation is how efficiently and effectively a child responds to a stressor and then recovers from the effort. Baseline should find the child focused and alert, with a PNS-SNS system in balance, as in Fogel’s earlier definition.

There are five interlocking systems of self-regulation that exist in allostasis. This is a dynamic system where they all interlock and influence one another

(Figure 1). A child with any kind of stress, must regulate all 5 domains to be in a balanced physiological state.

Children are currently under a significant amount of stress. In a study comparing the level of stress using the Minnesota Multiphasic Personality Inventory (MNPI), Jean Twenge found children in 2010 had a five-fold increase in stress-related problems compared to children in the Great Depression in 1936.<sup>2</sup> The stress response requires enormous amounts of energy and shuts down multiple body systems.

If a child experiences too much stress, the allostatic load will lead to physiological consequences including:

- Sudden transitions between arousal states
- Prolonged over-activation of SNS and/or PNS
- Inappropriate activation of SNS or PNS (i.e., in situations not warranting a heightened stress response)
- Diminished ability to return to baseline after activation of the stress response

### Figure 1. Allostasis: Five interlocking systems of self-regulation

1. **Arousal:** Environmental stressors (e.g., visual, auditory)
2. **Emotion:** Modulate negative and positive emotions
3. **Cognitive:** Sustain and switch attention
4. **Social:** Master the skills of co-regulation
5. **Prosocial:** development of empathy

When the allostatic load becomes too heavy, there is a shift from the “learning” brain to the “survival” brain. Children will also show a reduced ability to regulate negative emotions along with a reduced ability to express or read positive affect cues. Interoception and exteroception are also affected. Children with diminished interoception are out of touch with their body signals and not able to tell when they are hungry, tired or thirsty. This also applies to emotional signals resulting in children who do not know they are angry.

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*...the ability to read facial expressions degrades quickly with stress*

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Consider what happens after the fight or flight response is triggered. If you cannot flee or fight, as children often cannot, the next response is to freeze. This is a severe stress response where disassociation occurs. Unfortunately, adults who are not trained to recognize otherwise, frequently confuse this with compliance and think this is a good thing when it is the absolute opposite.

Problems with exteroception translate into a decreased ability of the child to listen and perceive (assimilate information from all 5 senses). Furthermore, the ability to read facial expressions degrades quickly with stress.

### Why are children under so much stress?

Recent studies have shown that children have far too much stress in their lives as a result of biological, social, psychological and/or environmental reasons.<sup>3</sup> The decline in empathy is one of the results of being over-stressed. Based on Fogel’s earlier definition, we should be starting with self-regulation. Ways to improve self-regulation include:

- Decrease environmental stressors
- Develop self-awareness
  - Child needs to learn what it feels like to be calm as they are habituated to high levels of hyper-arousal
- Learn ways to get back to a state of calm
  - This is especially important for adolescents

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*Roots of Empathy works on all five levels of the self-regulation model and teaches children what is means to be calm, focused and alert in a group.*

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### The Roots of Empathy Solution

The challenge in finding ways to improve self-regulation and thus empathy is that no two children are alike. There will be no uniform model that will help all children. Rather, they need options in order to let children self-select the ways that will work for them.

The emphasis in Roots of Empathy is on the “roots”. The program works on all five levels of the self-regulation model and teaches children what it means to be calm, focused and alert in a group. The content and depth of training the Instructors are given is a cornerstone of the program. During Roots of Empathy lessons, the Instructors create a safe place that encourages a state of being calm and alert. It is in this state, that the child can acquire enhanced self-awareness and the core skills that enable empathy.<sup>4</sup> Reaching large numbers of children, Roots of Empathy has proven itself as an evidence-based program and has demonstrated the ability to be replicated in classrooms around the world.

From the child’s perspective, when the program feels good, you want to repeat the experience over and over. Essentially, Roots of Empathy fills the children’s tanks so they can cope with the stressors they experience in all 5 domains of the self-regulation model.

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1 Alan Fogel, Body Sense, (Norton 2013); 2 Twenge, (2010); 3 Shanker, (2012); 4 Gordon, (2007).

# Empathy: Across time and across the world

## SARA KONRATH, PhD

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Empathy, defined as the ability to experience perspectives and feelings more congruent with another's situation than one's own<sup>1</sup>, is triggered by other's needs and results in altruism. Empathy can be classified into 2 distinct subtypes; empathic concern and perspective taking.

Empathic concern is more emotional in nature whereas perspective taking is more cognitive in nature. A further distinction is between situational and dispositional empathy. This is where one has feelings in response to a trigger vs. dispositional which is concerned with whether the person uses empathy more or less often.

The behavioural outcomes from empathy are both personal and societal. Prosocial outcomes, such as increased charity and volunteering, decreased aggression and being less likely to bully are observed. Personal outcomes include a greater number and increased quality of societal relationships, less risky decision making and a happier, more satisfied life.

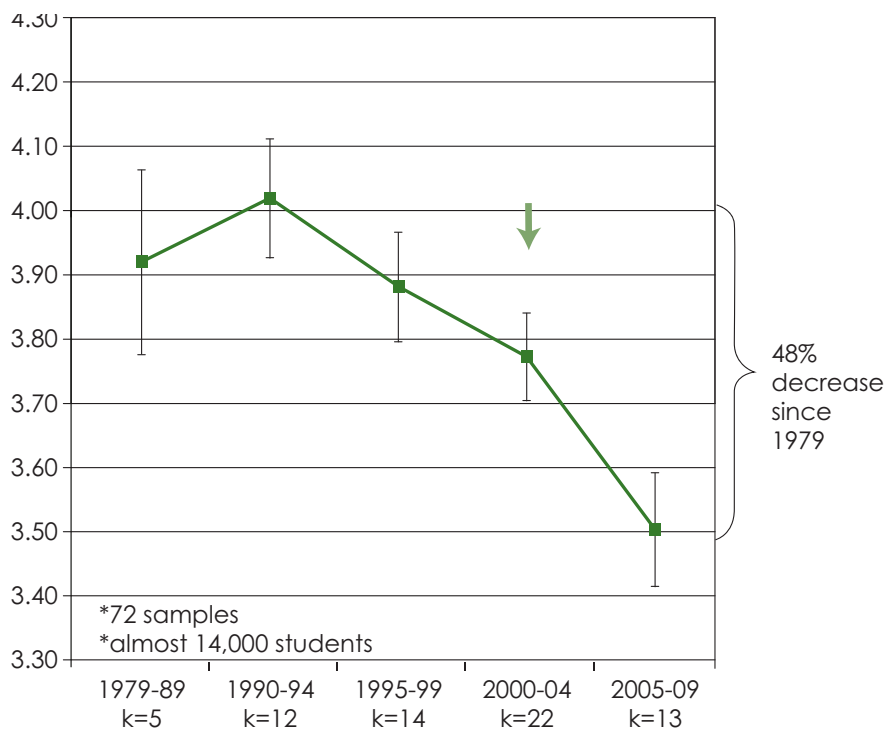
Has there been a change over time in empathy? When looking back at quotes from the 1920s, there was concern at the time that empathy was decreasing. Perhaps, this is a universal concern of the older generation. My work has explored the question: is there empirical evidence for increasing social disconnection among Americans in recent years?

We undertook a cross-temporal meta-analysis which examines the effect of year of data collection on a trait. The Davis Interpersonal Reactivity Index was chosen as a widely used and validated standard measure of empathy. We focused on American college students because many studies use this population and they can be easily compared over time.



Sara Konrath

**Figure 1. Empathic concern over time (1979-2009)**



Konrath, O'Brien, & Hsing, 2011.

Using a sample of 72 studies with close to 14,000 students, we found a 48% decrease in empathic concern between 1979 and 2009.<sup>2</sup> It is important to note that while a 48% decrease is substantial and significant, in practical terms, this is a ~0.5 point decrease on a 5 point scale, and the mean in 2009 was ~3.5 (Figure 1). Perspective taking also declined over the 1979-2009 time period by 34%.

It is important to consider the limitations of this study and not over-reach with the conclusions. This data is self-reported and the numbers represent averages thus some students would score higher and some lower. While the subject pool was limited to college students in one country, more nationally representative samples have also shown parallels.<sup>3</sup> Importantly, the change in empathy does not translate into an inability to connect but rather being less able to connect. The empathy score is still above the midpoint of 3 on a 5 point scale. The implications for this study going forward would depend on whether the current trends continue or change.

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**Importantly, the change in empathy does not translate into an inability to connect  
but rather being less able to connect.**

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What are the causes of this change in empathy over time? Possibilities include changes in family settings and practices such as smaller families and parenting styles. Changing economic conditions and educational environments, for example, the rise of the self-esteem movement in the 1980s, are possible contributors. Additionally, the change in the media/social environment seen in the 1980s with increased TV watching, videogames, computers and in the 2000s with the rise of social networking, may be contributing factors to consider.

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1 Decety & Lamm, (2006); 2 Konrath, O'Brien & Hsing, (2011); 3 O'Brien, Konrath, Grühn & Hagen, (2013).



*Alex Gabbay*



## Applied empathy

### HOWARD GARDNER, PhD

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*Harvard Graduate School of Education*

How do people who want to do good work, accomplish this in our fastchanging society? This is a question my group is exploring with The Good Work project ([www.thegoodproject.org](http://www.thegoodproject.org)).

We define “good work” as having three key components, the three “E’s”:

1. Excellent level of work
2. Engaging way to do the work
3. Ethically done work (for the broader society)

The components of good citizenship are similar to the essential components of Good Work. We know that within a profession, it is easier to do Good Work if the majority of people involved with the profession agree about means and goals. For example, in a group of journalists, where there is disagreement about the operation of the profession, 30% of people wanted to leave the profession; it was difficult to do Good Work. In this situation, the various stakeholders in the profession (owners, readers, writers, editors, etc.) have different interests. Compare this to a group of geneticists, where all of our interview subjects wanted to remain in the profession thereby making it easier to do Good Work.

The ethics of roles becomes a consideration when speaking of how to do Good Work. Neighbourly morality, such as the Golden Rule and the 10 commandments, deals with our morality towards those around us, our neighbours. The ethics of roles is a relatively new concept that has arisen in our complex society where people carry out changing roles. It requires people to consider themselves as citizens first, not simply as members of a community.



*Howard Gardner*

**The work of Roots of Empathy teaching children neighbourly empathy is an important building block for the next generation.**

What role does empathy play in these 2 contexts? In neighbourly morality, there is no real challenge for empathy. As a member of the same community, it is relatively easy to put yourself in a neighbour's shoes and want to help. The challenge for empathy is when we are dealing with the ethics of roles. Consider the teacher with a class of 30 where 2 children have significant difficulties and 28 children who are neurotypical. Who do you spend your time helping? There is a conflict between the empathy of a neighbor or friend and your professional role as teacher and there is nowhere to look up the answers to this type of question. Empathy in itself does not yield a preferred cause of action.

Affirmative action is a concrete example of a personal vs. public decision. In this example, the norms and demands of the roles we have as workers don't necessarily have confluence with the empathy we feel for our neighbours, members of our religion or tribe. This leaves us with the question of how to deal with the conflicts that arise in our roles as workers and citizens.

Empathy is a positive force for life in general and learning the balance between neighbourly empathy, on the one hand, and the ethics of roles when acting as a worker or citizen is part of the growing process. I learned of the Roots of Empathy (ROE) program through the Ashoka Foundation and discussions with Mary Gordon and have subsequently directed many persons to this program. The work of ROE teaching young children neighbourly empathy is an important building block for the next generation.

# Cultivating digital ethics: opportunities and challenges

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*Katie Davis*

Children in the 8-18 year old bracket spend an average of 7 hours and 38 minutes a day using media. With multitasking using multiple modalities, this number increases to 10 hours a day. How is all this media use affecting the development of today's youth? What are the implications and significance for these children?

Investigators on the Good Play Project, a multi-year research initiative based at Harvard Project Zero, have been exploring the moral and ethical dimensions of young people's digital lives since 2007.

Qualitative interviews were conducted with over 100 youth aged 10-25 years old who were engaged in social networking, texting, gaming, blogging or content creation and sharing online. Interviews were also conducted with 40 teachers/parents with a mean age of 42.

The qualities of digital environments (figure 1) set apart from offline contexts and raise 5 key ethical fault lines (figure 1).

**Figure 1. Allostasis: Five interlocking systems of self-regulation**

## Qualities of digital environments

- participatory
- text-based and asynchronous
- opportunities for anonymity
- arms length
- persistence, replicability, searchability
- public/boundless
- "always on"
- capacity to multi-task

## Five ethical fault lines



- identity
- privacy
- ownership and authorship
- credibility
- participation



The ethical fault lines begin with the individual and radiate out to the community.

1. Identity
  - When does identity play cross over into identity deception?
2. Privacy
  - What are the boundaries of sharing information about oneself and others online?
3. Ownership and authorship
  - What is the meaning of ownership and authorship in copy-paste, download, and remix environments?
4. Credibility
  - How do people signal their trustworthiness online and judge the trustworthiness of others?
5. Participation
  - In a context of rapidly forming and disintegrating communities, how are norms of behavior established, maintained, and respected online?

The Good Play Project presented a variety of hypothetical scenarios to the youth and collected their feedback. In one dilemma that related to privacy, the answers from youth participants illustrate three dominant ways of thinking about thorny issues online. Consequence thinking was the most common where the individual is concerned with how a particular course of action will affect them in a consequence-driven way. Moral thinking was the second most common response, where they are considering how their actions will affect interpersonal relationships. Ethical thinking, where the individual thinks in abstract terms about the impact of online choices for the broader community, was seen only rarely.

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*Adults need to consider how we cultivate ethical skills in youth and what roles we should play in youth's online lives.*

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Moral and ethical lapses online can be attributed to failures of alertness and motivation. When teens and young adults were asked about adult supports in an online situation, these were largely absent. For tweens (10-14 year olds), who appear to receive somewhat more adult support than teens, the top messages heard were don't talk to strangers and don't post inappropriate content. This reinforces consequence-driven thinking.

With their collaborators, the Good Play Project has developed interventions to improve digital literacy and citizenship by fostering moral and ethical thinking skills and dispositions. Youth are taught about the three rings of responsibility, beginning with the self and moving outwards to consider family/friends and community. These interventions aim to shift the conversation around youth's online activities from its current emphasis on personal safety to a greater focus on digital citizenship.

Digital life provides youth with both opportunities (digital learning, civic and political engagement) and ethical challenges. Adults need to consider how we cultivate ethical skills in youth and what roles we should play, particularly in online spaces where we are not always welcome.



*Thalia Goldstein*

# Executive function and the developing brain: Implications for the cultivation of empathy

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## Implications of executive function in children

Empathy depends on a range of self-regulatory, “executive function” skills and its development occurs in the context of these skills, which themselves develop over the course of the lifespan.

Executive function is the “top-down”, goal-directed modulation of attention, thought, emotion, motivation and action.

There is a lot of interest in executive function in part because deficits in executive function are associated with ADHD, autism, and other disorders, and executive function in childhood is a good predictor of school readiness and school achievement—indeed, executive function has been found to be a more robust predictor of school readiness than IQ scores. In a 2011 study, Moffitt and colleagues showed that a broad measure of executive function in childhood predicted health, SES, and the likelihood of drug problems and having a criminal conviction at 32 years of age.<sup>1</sup>

Executive function is needed for goal-directed problem solving, which can be broken down into 4 distinct steps (Figure 1). As we proceed through these steps, we rely on three skills, or aspects of executive function: (1) cognitive flexibility, or thinking about a single thing from multiple perspectives; (2) inhibitory control, or suppressing relatively automatic responses (e.g., orienting to a distractor or repeating a habit); and (3) working memory, or keeping information (e.g., the current context) in mind and working with it so that it can guide action.

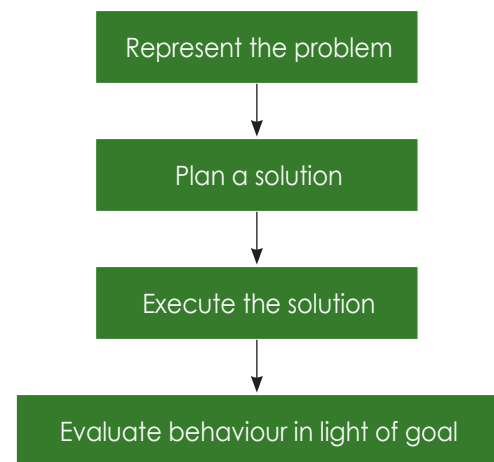
In people with executive dysfunction, problem solving often breaks down at one of the four steps, for example due to a failure to keep the current context in mind, and this is often manifested in rigidity or stimulus-driven behaviour. Essentially, these patients respond in a more “bottom-up” way to suggestions coming from the environment, or based on past experience. These behaviors resemble those of young children, and executive function develops rapidly during early childhood (consider a toddler, who can hold information in mind but may have difficulty being flexible, to an older child who can consider other people’s perspectives, or plan a birthday party). Executive function continues to develop into adulthood, albeit more gradually.

Neural networks involving prefrontal cortex play an important role in executive function, and these networks develop rapidly during early childhood. This developmental period, when prefrontal cortex is adapting rapidly to increased demands on children’s executive function skills, may be a kind of sensitive period for the development of executive function skills. Interventions in preschool that provide children with opportunities to practice their executive function skills may better prepare children for kindergarten, where they need to sit still, pay attention, keep information in mind, and follow rules. Any increasing in the ease with which children learn and adapt to the classroom environment may change the trajectory of their lives.



*Philip Zelazo, Jim Stieben and Stuart Shanker*

**Figure 1. Executive function problem solving steps**





## Increasing executive function with training

There is a growing body of evidence showing interventions that improve executive function and bring about neural changes. Espinet, Anderson, and Zelazo (2013) focused on reflection training. Reflection—stopping, stepping back, and putting a situation into perspective—makes it possible to make a deliberate decision rather than simply responding automatically on impulse or in response to misleading suggestions from the environment. Children were provided with experience stepping back from a problem in order to reflect on their range of options. Other works show the importance of keeping children engaged and continually challenging children's skills by increasing levels of difficulty. Ideally, there will be many opportunities to practise as this is a requirement for the development of all skills, from motor skills to emotional habits.

*When we teach executive function skills, we are investing early in children's health*

When we teach executive function skills, particularly to children who are at risk for problems with executive function, we are investing early in children's health and helping establish the foundation for learning efficiently and deeply. Executive function skills also include emotion regulation, which is important for managing stress, which can undermine executive function and, when prolonged, can damage neural tissue itself.

<sup>1</sup> Moffitt, (2011).

## The empathy-altruism hypothesis: Possible implications for Roots of Empathy

**DAN BATSON, PhD**

*University of Kansas*

### Why do we help other people?

The Empathy-Altruism hypothesis suggests that empathic concern produces altruistic motivation. Empathy, in the context of the hypothesis, refers to feelings “for the other”, not feeling “as the other”. Empathic concern includes feelings of compassion, tenderness and sympathy. The hypothesis claims that these emotions evoke altruistic motivation reduces the empathy-inducing need.

Altruism is defined as a motivational state where the ultimate goal is to increase another's welfare. I am not talking about self-sacrificing behaviour nor helping that is motivated by potential for internal rewards. Rather, in the empathy-altruism hypothesis, altruism is a motive to increase the welfare of the target of empathy.

Over 35 experiments have now been conducted to test the empathy-altruism hypothesis. The results have been strongly supportive, suggesting this hypothesis is correct.

If empathic concern (e.g., sympathy) produces altruistic motivation, what causes this to happen? Specifically, how could empathy-induced altruism have evolved? The most plausible theoretical explanation is generalized parental nurturance. This explanation suggests that humans have a need-oriented, empathy-based, and altruistic parental instinct. This parental instinct is emotion-based and goal-directed and can be generalized beyond progeny.



*Dan Batson and Mary Gordon*

*Empathy-induced altruistic motivation can have prosocial consequences.*

When parental nurturance is generalized beyond progeny, the intensity of the tender, sympathetic feelings varies based on perceived similarity to progeny, not perceived similarity to self. An experiment looking at which form of similarity would evoke the greater magnitude of empathic concern compared reactions to a broken leg in a 20 year old, a 3 year old child, a dog and a puppy. Undergraduates reported feeling significantly more empathic concern for the last three targets than for the personally similar 20 year old.<sup>1</sup>

Empathy-induced altruistic motivation can have prosocial consequences. Studies have observed increased cooperation and care in conflict situations.<sup>2</sup> Improved attitudes and action toward stigmatized groups such as people with AIDS, and the homeless have also been seen in studies.<sup>3</sup>

### Implications for Roots of Empathy

The generalized parental nurturance instinct supports the Roots of Empathy model of working through the baby and the attachment relationship between the baby and the parent to induce empathy. The clear prosocial benefits of empathy-induced altruism are well documented, and such benefits are a goal of the Roots of Empathy program. The empathy-altruism hypothesis also suggests building on the Roots with programs to further promote the “shoots” (via perspective taking) and “fruits” (prosocial action) of empathy.

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1 Batson, Lishner, Cook & Sawyer, (2005); 2 Batson & Ahmad, (2001); 3 Batson, Chang, Orr & Rowland, (2002). Batson, Polycarpou, Harmon-Jones, Imhoff, Mitchener, Bednar, Klein & Highberger, (1997).

## The impact of Roots of Empathy on the mitigation of aggression

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Emotional processes and social understanding play critical roles in children's interpersonal relationships and social behaviours.<sup>1</sup> These skills are important contributors to school and life success. Empathy is fundamental to the development of prosocial behaviours and positive social relations.<sup>2</sup> Conversely, early aggressive behaviour is the single-best predictor of delinquency and later aggression.<sup>3</sup>

Development of empathy is a central component of the Roots of Empathy program. The program has a strong record of positive study results and meets the criteria for being an evidence-based program. Specifically, Roots of Empathy has proven scalable for real-world application where it has shown a program effect size of 0.25 representing a reduction in physical aggression by nearly 50% compared to baseline.<sup>4</sup> Additional research has shown a similarly large effect size.<sup>5</sup>

### Roots of Empathy mitigates aggression in school-aged children

The effectiveness of the Roots of Empathy program on mitigating aggression in school-aged children was the focus of this study. The study included 169 students from grades 2 to 5 (9 Roots of Empathy classrooms and 8 control classrooms) from two school boards in Ontario. A pretest/posttest design was implemented with respect to all outcome measures. Measures were collected from students, teachers, and parents. Roots of Empathy instructors completed measures assessing implementation fidelity throughout the program year.

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*The Roots of Empathy program mitigates the trajectory of three subtypes of aggression:  
Physical, verbal, and social exclusion*

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Students underwent individual evaluations to assess baseline emotion understanding, IQ, and language comprehension. Student group evaluations were also conducted using questionnaires to assess physical aggression, verbal aggression and social exclusion.

Teachers completed a set of questionnaires, measuring outcome variables such as conduct problems as well as physical and verbal aggression, for each student in their classroom.

No significant baseline difference emerged between groups with respect to emotion understanding. There was, however, a significant difference between students in the Roots of Empathy classrooms and those in control classrooms on measures of aggression. As seen in figure 1, aggression outcome scores show a mitigating effect for students in the Roots of Empathy classrooms, whereas the scores increase for students in the control groups. Teacher ratings demonstrated the same significant trajectories.

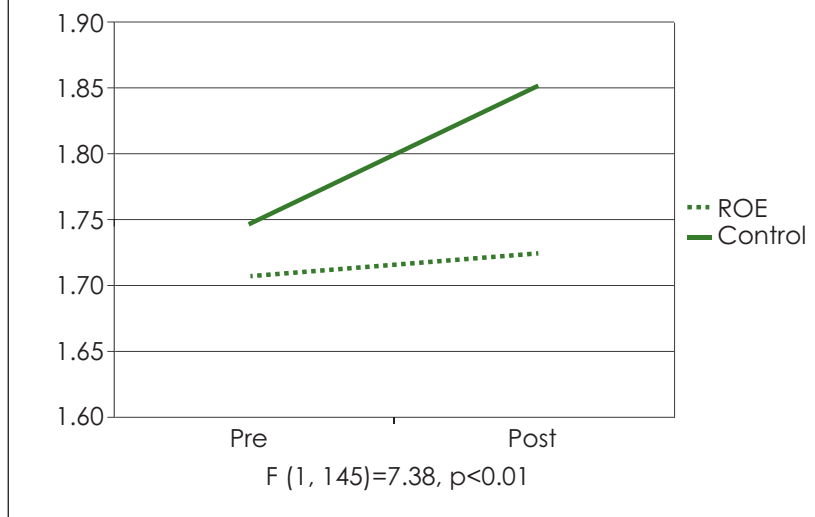
As a whole, the initial, simple analyses show that the Roots of Empathy program mitigates the trajectory of three subtypes of aggression:

- Physical
- Verbal
- Social exclusion

Looking ahead, the goal is to determine moderators that may play a role with respect to program outcomes. Specifically, the three brain mechanisms that bear consideration in the moderated model are:

- ACC
- Dorsal
- Ventral ROI

**Figure 1. Group by Pre-Post Repeated-Measures ANOVA**



1 Izard, (2002). Shipman, (2000); 2 Eisenberg, (1987); 3 Kumpulainen et al., (2000); 4 Santos et al., (2011); 5 Schonert-Reichl et al., (2012).



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Roots of Empathy

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Racines de l'empathie

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